Th1 and Th2 Immune response in Hymenolepis nana infection

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Abstract

**Background & Objective:** Although many experimental studies provide convincing evidence, that type II immunity is protective against helminthes, recent data in mice reveal that Th1 are also important in some cestods like Hymenolepis nana. To reveal the role of Th1 and Th2 lymphocyte in immunity against H.nana, the levele of IL12, IFN\textgreek{g}, IL5, IL13 was determined in serum of human infected with H.nana.

**Materials & Methods:** In a case control study in 2006 in Mazandaran Medical Sciences university a total of 31 patients (case) with H.nana infection and 30 clinical healthy people (control) were included in this study. Measurement of IL12, IFN\textgreek{g}, IL13 and IL5 in serum samples were performed by solid-phase sandwich enzyme linked immunosorbant assay. Differential leukocyte count also was done. T test, mannwhitney test and wilcoxon W test were used for data analysis.

**Results:** The mean concentration of IFN\textgreek{g}, IL13, IL12, IL5 in the sera of patient with H.nana infection were higher than control group, but only the difference between concentration of IFN\textgreek{g} (P<0.05) and IL13 (P<0.05) in two groups were significant. There was an increase in percentage of monocytes, Eosinophils and lymphocytes in patient when compared to the control group, but this increase was not significant.

**Conclusion:** Results form the present study are in agreement with experimental study in that both Th1 and Th2 responses occurs in H.nana infection.

**Key Words:** Hymenolepis nana, Cytokines, Infection

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